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BEFORE THE IDAHO PUBLIC UTILITIES COMMISSION

IN THE MATTER OF THE APPLICATION)	CASE NO. AVU-G-17-01
OF AVISTA CORPORATION FOR THE)	
AUTHORITY TO INCREASE ITS RATES)	
AND CHARGES FOR ELECTRIC AND)	
NATURAL GAS SERVICE TO ELECTRIC)	DIRECT TESTIMONY
AND NATURAL GAS CUSTOMERS IN THE)	OF
STATE OF IDAHO)	JODY MOREHOUSE
)	

FOR AVISTA CORPORATION

(NATURAL GAS ONLY)

1 I. INTRODUCTION

2 **Q. Please state your name, business address, and present**
3 **position with Avista Corp.**

4 A. My name is Jody Morehouse and I am employed as
5 Director of Gas Supply for Avista Utilities (Avista or Company).
6 My business address is 1411 East Mission Avenue, Spokane,
7 Washington. In my current role I am responsible for Avista's
8 natural gas supply and upstream pipeline transportation
9 resources.

10 **Q. Would you please describe your education and business**
11 **experience?**

12 A. Yes. I graduated from Montana State University with
13 a Bachelor of Science Degree in Mechanical Engineering and hold
14 a professional engineering license in the State of Washington.
15 I joined the Company in 1989 and have held staff and management
16 positions in our natural gas engineering, natural gas
17 operations, natural gas planning, and natural gas measurement
18 departments. Additionally, I held the position of Manager of
19 Pipeline Integrity and Compliance prior to my current role.

20 **Q. What is the purpose of your testimony in this**
21 **proceeding?**

22 A. The purpose of my testimony is to describe Avista's
23 natural gas resource planning process, provide an overview of

1 the Jackson Prairie natural gas storage facility, and provide
2 an overview of the Company's 2016 Natural Gas Integrated
3 Resource Plan. A table of contents for my testimony is as
4 follows:

5	<u>Description</u>	<u>Page</u>
6	I. Introduction	1
7	II. Planning for Commodity Resource Procurement	3
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9	IV. Integrated Resource Plan	12

10

11 **Q. Are you sponsoring exhibits in this proceeding?**

12 A. Yes. I am sponsoring Exhibit No. 7, Schedule 1, which
13 is a copy of the Company's 2016 Natural Gas Integrated Resource
14 Plan acknowledged by this Commission on February 23, 2017.

15 **Q. Is the Company proposing any changes to the cost of**
16 **natural gas for its retail natural gas customers in this case?**

17 A. No, Avista is not proposing changes in this filing
18 related to the commodity cost of natural gas or upstream
19 pipeline transportation resource costs. Changes in the
20 commodity cost of natural gas and the cost of natural gas
21 pipeline transportation included in customers' rates are
22 addressed in the Company's annual Purchased Gas Cost Adjustment
23 (PGA) filing. The Company expects to file its annual PGA on or
24 before September 1, 2017, with new rates proposed to become
25 effective November 1, 2017.

1 **II. PLANNING FOR COMMODITY RESOURCE PROCUREMENT**

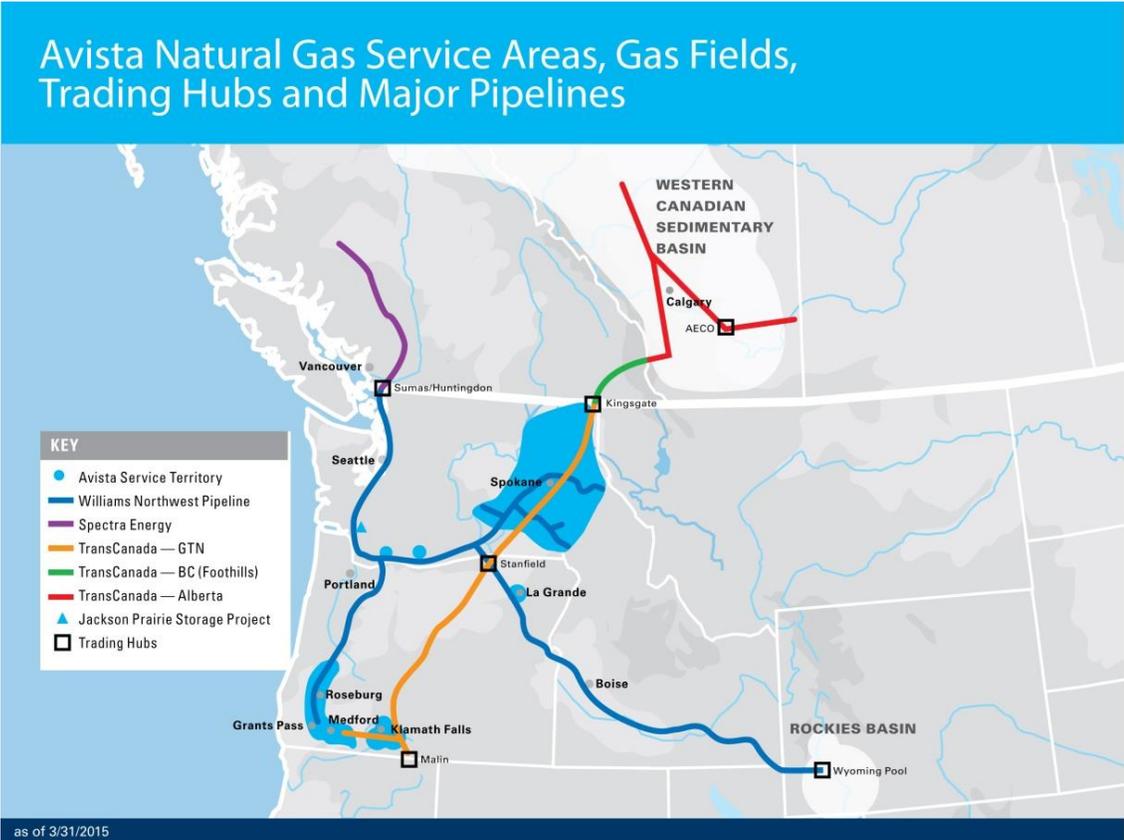
2 **Q. Please describe Avista's natural gas portfolio as it**
3 **relates to the procurement of the natural gas commodity for its**
4 **local distribution company ("LDC") customers?**

5 A. Avista purchases natural gas for its distribution
6 customers in wholesale markets at multiple supply basins in the
7 western United States and western Canada. Purchased natural
8 gas can be transported through six inter-connected pipelines on
9 which Avista holds firm contractual transportation rights.
10 These contracts provide access to both US and Canadian-sourced
11 supply. The US-sourced natural gas represents approximately
12 25% of the contractual rights and provides transportation from
13 the Rocky Mountain supply basin. The remaining 75% provides
14 access to Alberta and British Columbia supply basins. This
15 diverse portfolio of natural gas transportation resources
16 allows the Company to make natural gas procurement decisions
17 based on the reliability and economics that provide the most
18 benefit to our customers. Natural gas prices in the Pacific
19 Northwest can be affected by global energy markets, as well as
20 supply and demand factors in other regions of the United States
21 and Canada. Price changes, combined with delivery constraints,
22 may cause the source mix to vary.

23 Illustration No. 1 below is a map showing our service

1 territory, natural gas trading hubs, interstate pipelines, and
2 the Jackson Prairie Natural Gas Storage Facility:

3 **Illustration No. 1**



16 Future natural gas prices cannot be accurately predicted.
17 Market conditions, analysis, and experience shape our overall
18 procurement approach. The Company's goal is to provide reliable
19 supply at competitive prices, with some level of price
20 certainty, in a volatile commodity market. To that end, the
21 Company utilizes a Procurement Plan which includes hedging (on
22 both a short-term and long-term basis), storage utilization,
23 and index purchases. This approach is diversified by

1 transaction time, term, counterparty, and supply basin. The
2 Procurement Plan is disciplined, yet flexible, and layers in
3 fixed-price purchases over time and term to provide a level of
4 price certainty to customers for a portion of the portfolio. A
5 copy of the Company's Natural Gas Procurement Plan is included
6 as Company witness Mr. Kinney's Exhibit No. 4, Confidential
7 Schedule 2C, Avista's Energy Resources Risk Policy.

8 The Procurement Plan provides a process that fixes future
9 natural gas prices for a targeted portion of the portfolio
10 through the use of hedge windows. The hedge windows are "open"
11 for a predetermined time period and have upper and lower pricing
12 levels which are determined by the market at the time the window
13 becomes effective. In a rising market, this reduces exposure
14 to extreme price spikes. In a declining market, it can
15 facilitate locking in lower prices. These windows can be
16 executed, or "closed", if certain pricing levels are met, or
17 upon time expiration if no pricing events occur. The Company
18 always maintains some level of discretion and may choose not to
19 execute within a window or to change some aspect of a window
20 given market conditions.

21 The Natural Gas Supply Department monitors the results of
22 the Procurement Plan, evolving market conditions, variation in
23 demand profiles, new supply opportunities, and regulatory

1 conditions. Although various windows and targets are
2 established in the initial design phase of the portfolio, the
3 plan provides flexibility to exercise judgment to revise and/or
4 adjust the Procurement Plan in response to changing conditions.
5 Material changes to the Procurement Plan are communicated to
6 Avista's Senior Management and Commission Staff.

7 **Q. What delivery period does the natural gas Procurement**
8 **Plan include?**

9 A. The Procurement Plan includes the prompt six months
10 and seasonal strips (November-March or April-October) for up to
11 36 months from the current month.

12 **Q. Please describe the components of the natural gas**
13 **Procurement Plan.**

14 A. Each year a comprehensive review of the previous
15 year's plan is performed. The review includes analysis of
16 historical and forecasted market trends, fundamental market
17 analysis, demand forecasting, transportation, storage and other
18 resource considerations. The plan includes the following
19 components:

- 20 1. **Previous Year(s) Hedges** - longer-term fixed-price
21 purchases executed as a part of a previous year's
22 Procurement Plan.
23
24 2. **Current Period Hedges (Prompt - 36 months)** - the
25 portion of the portfolio addressed through the
26 utilization of hedge windows. In each window, fixed
27 price purchases are made for various prompt year

1 delivery periods (i.e. November to March winter
2 purchase, April to October summer purchase, or
3 individual months). Prior to the execution of each
4 window, market conditions, market knowledge, and
5 other information are considered to determine if
6 execution will occur.
7

8 **3. Natural Gas Storage** - utilization of the working gas
9 capacity and deliverability of the Jackson Prairie
10 Natural Gas Storage Facility ("JP"). With JP, Avista
11 is able to provide natural gas during peak load events
12 during the higher demand winter months.
13 Additionally, JP withdrawals can be executed during
14 volatile daily gas price events. For less critical
15 operational purposes, JP withdrawals and injections
16 are frequently used to alleviate load imbalances on
17 pipelines. In 2015, Avista deployed a new natural
18 gas storage software model enabling Avista the
19 opportunity to further optimize the working gas
20 capacity. The model tracks the historical price
21 spreads of various time frames for JP injections and
22 withdrawals. This historical analysis quantifies the
23 relative benefit of current forward prices and
24 identifies optimal transactions to lock in more
25 economic value than the traditional summer-winter
26 spread.
27

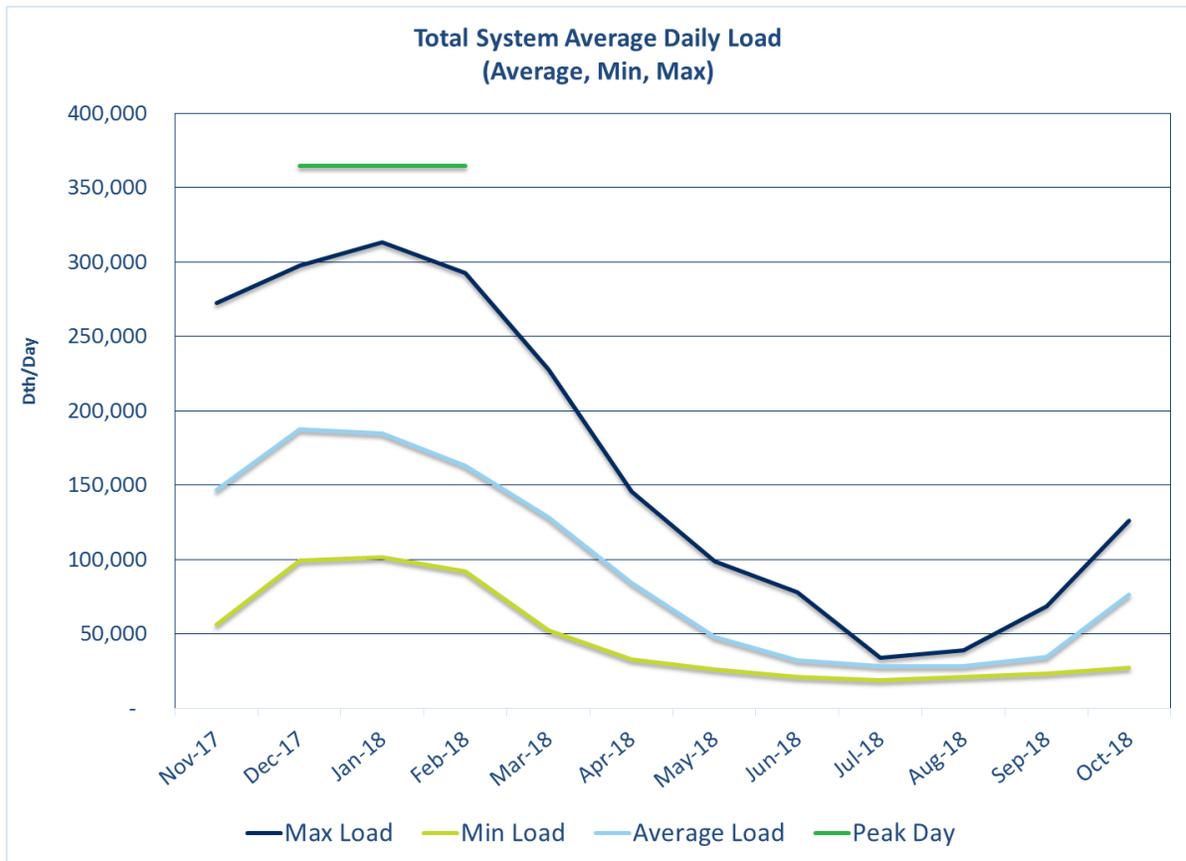
28 **4. Index Purchases** - physical index-based natural gas
29 purchases are procured prior to or throughout the
30 delivery month. These purchases are usually
31 associated with daily pricing. The majority of the
32 amount of index purchases planned is the difference
33 between the forecasted demand less the sum of
34 previously executed hedges. Index purchases are also
35 made as part of Avista's natural gas storage
36 management process throughout the year. This process
37 is explained in greater detail in Section III.

38 **Q. Please describe how the Procurement Plan manages**
39 **volatility.**

40 A. The Procurement Plan focuses on managing the costs
41 associated with serving varying retail load with supply from a

1 wholesale market with price volatility. In order to manage
2 these seasonal, monthly and daily volume swings, Avista shapes
3 the components of the Procurement Plan by month (i.e. more
4 natural gas is hedged for the winter months than for the
5 summer). Illustration No. 2 below includes a chart that shows
6 the demand volatility:

7 **Illustration No. 2**



1 Price volatility can also vary widely by season, month and
2 day. Illustration No. 3, below, includes a chart depicting the
3 natural gas price volatility over time:

4 **Illustration No. 3**



18 Avista cannot predict with accuracy what natural gas
19 prices will be. Our experience and intelligence related to
20 market fundamentals guide our procurement decisions. By
21 layering in fixed-price purchases over time, setting upper and
22 lower pricing levels on the hedge windows, and actively managing
23 storage resources, Avista is able to meet our goal of providing

1 a meaningful measure of price stability and certainty, and
2 competitive prices for our customers.

3

4

III. JACKSON PRAIRIE

5 **Q. Please describe Avista's involvement with the Jackson**
6 **Prairie Natural Gas Storage Facility (JP).**

7 A. Avista is one of the three original developers of the
8 underground storage facility at JP, which is located near
9 Chehalis, Washington. Although there have been corporate
10 changes due to mergers, acquisitions and name changes, Avista,
11 Puget Sound Energy (PSE) and Williams Northwest Pipeline each
12 hold a one-third share (equal, undivided interest) of this
13 underground gas storage facility through a joint ownership
14 agreement. Puget Sound Energy is the operator of the facility.

15 **Q. What type of storage facility is JP?**

16 A. JP is an underground aquifer storage facility.
17 Storage and the associated withdrawal and injection capability
18 has been created by a combination of wells, gathering pipelines,
19 compression and dehydration equipment, and the removal and
20 disposal of aquifer water.

21 **Q. Please describe the present level of storage that**
22 **Avista owns at JP.**

23 A. At the present time, Avista Utilities owns a total of

1 8,528,013 dekatherms (Dth) of working gas capacity. This
2 capacity comes with a withdrawal capability (deliverability) of
3 398,667 Dth per day. Jurisdictionally this amount is broken
4 down as follows:

Jurisdiction	Working Capacity (Dth/Day)	Withdrawal Capacity (Dth/Day)
Washington/Idaho	7,704,676	346,667
Oregon	823,337	52,000
Total Owned	8,528,013	398,667

8 **Q. What are the benefits of storage to Avista's**
9 **customers?**

10 A. Access to regionally located storage provides several
11 benefits to Avista's customers. It enables the Company to
12 capture price spreads between time periods, improve reliability
13 and flexibility of supply, mitigates peak demand price spikes,
14 and numerous other economic benefits.

15 Avista utilizes a natural gas storage software model in
16 order to capture seasonal price spreads for the benefit of
17 natural gas customers. The model is governed by a storage
18 management program that sets boundaries on injections and
19 withdrawals as well as tracks real time market data to guide
20 the purchase and sale of natural gas storage transactions. The
21 program enforces storage constraints and requirements such as
22 the storage fill schedule, peak day load requirements,
23 transportation capacity limits, and deliverability constraints.

1 The information within the model provides the Company's
2 natural gas buyers the ability to identify additional
3 opportunities to purchase lower cost natural gas in the
4 immediate term for a sale in a future time period. For each
5 storage purchase transaction, a corresponding forward sale is
6 also made, locking in the benefit for our customers. Additional
7 purchases and sales are made continuously as market conditions
8 move into favorable conditions for each transaction. The effect
9 of storage volumes will be that they are more frequently cycled
10 in and out to take advantage of market conditions. It is
11 important to note that JP will still be utilized to meet peak
12 day needs, as well as to help mitigate daily price volatility.
13 The benefits associated with locking in time-period spreads
14 flow through to customers in the Company's Purchase Gas
15 Adjustment (PGA) annual filings.

16

17 **IV. 2016 NATURAL GAS INTEGRATED RESOURCE PLAN**

18 **Q. Please provide an overview of the Company's**
19 **development of its 2016 Natural Gas Integrated Resource Plan.**

20 A. The 2016 Integrated Resource Plan ("IRP") was filed
21 with the Commission on August 31, 2016. The IRP includes
22 forecasts of natural gas demand and any supply-side
23 transportation resources and demand-side measures needed for

1 the coming 20 years, which will help Avista continue to reliably
2 provide natural gas to our customers. A copy of the Company's
3 2016 Natural Gas Integrated Resource Plan is included as Exhibit
4 No. 7, Schedule 1.

5 **Q. What are the summary highlights from the 2016 IRP?**

6 A. Highlights from the 2016 IRP are as follows:

- 7 • The Company has sufficient natural gas transportation
8 resources well into the future with resource needs
9 not occurring during the 20-year planning horizon in
10 Idaho, Washington, or Oregon;
- 11 • Natural Gas commodity prices continue to be
12 relatively stable due to robust North American
13 supplies led by shale gas development; and
- 14 • As forecasted demand is relatively flat, the Company
15 will monitor actual demand for signs of increased
16 growth which could accelerate resource needs.

17
18
19 **Q. Has the Company's 2016 Natural Gas IRP been**
20 **acknowledged by this Commission?**

21 A. Yes. The Company's 2016 IRP was acknowledged by the
22 Commission in Order No. 33720 on February 23, 2017.

23 **Q. When will the Company file its next natural gas IRP?**

24 A. The Company will file its next natural gas IRP on or
25 before August 31, 2018. A courtesy work plan will be filed in
26 August 2017 detailing Avista's IRP planning process as well as
27 tentative dates and content for meetings with the Technical
28 Advisory Group (TAC). TAC meetings will begin in the first
29 quarter of 2018.

1 Q. Does this complete your pre-filed direct testimony?

2 A. Yes, it does.